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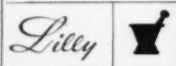
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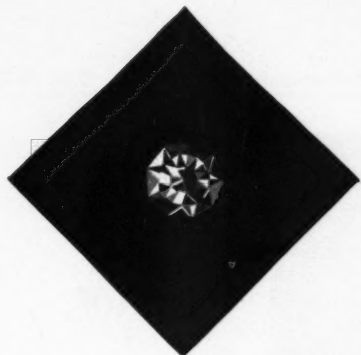


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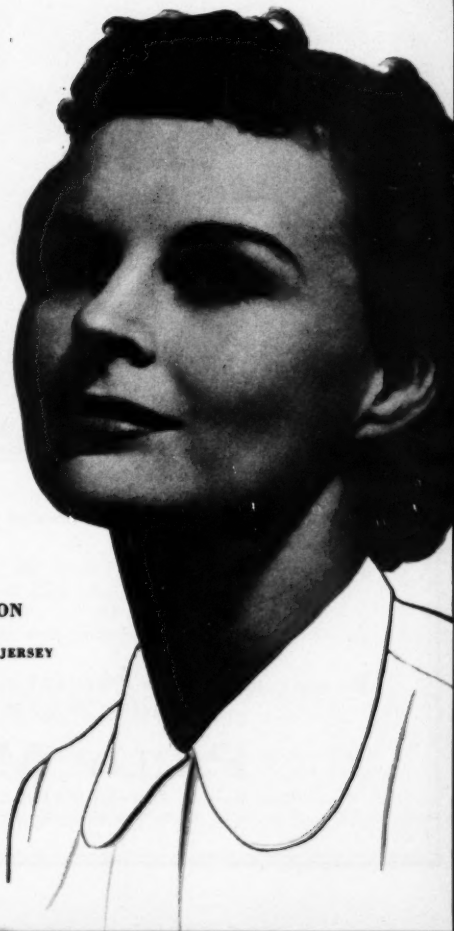
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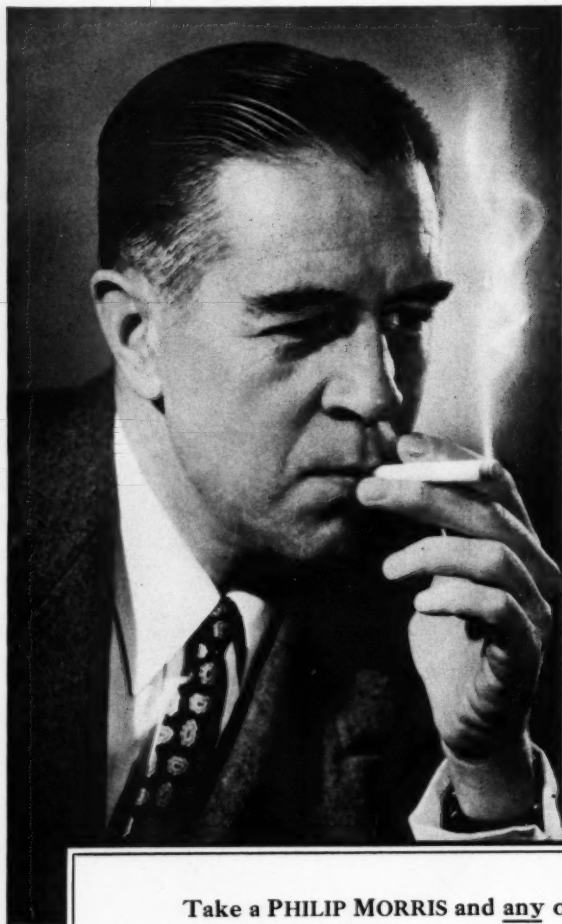
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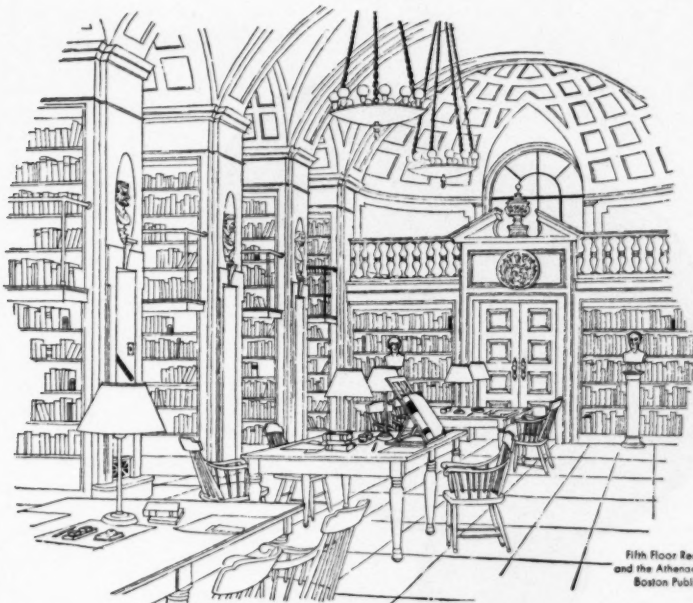
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Contrary to the former belief that serum cholesterol levels are primarily related to ingested animal fat and consequently to dietary cholesterol, it now appears that the total amount of fat in the diet, not its source or cholesterol content, is a more important factor in determining the blood cholesterol concentration.<sup>1,2,3,4</sup> Clinical observation has shown that ingestion of vegetable fat—which contains no cholesterol—will, like fats of animal origin, raise the serum cholesterol level.<sup>3, 5</sup>

Recent basic research on the influence of fats and cholesterol on human health has done much to further progress in the fight against atherosclerosis. It will serve well in dispelling the mistaken fear that reasonable amounts of foods of animal origin predispose the individual to this vascular disease.<sup>6</sup> As a matter of fact, a dietary inadequate in essential nutrients but providing too many calories and too much fat from any source may well be an important factor underlying the deposition of fat and cholesterol in the arteries and liver.

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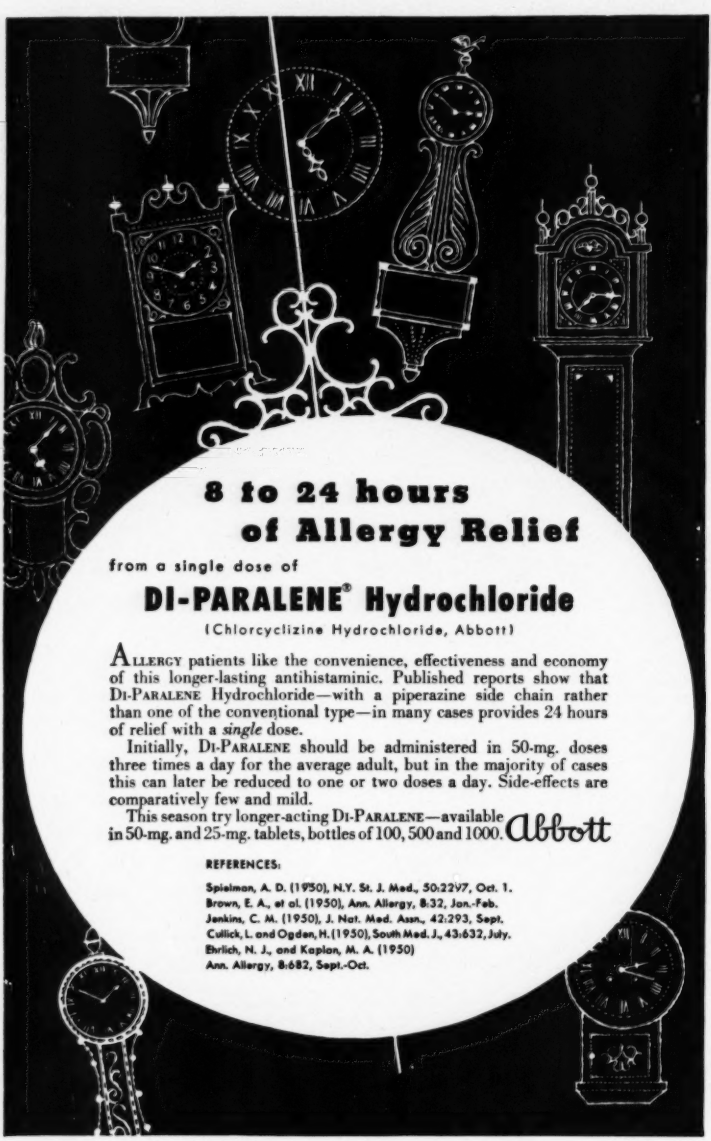
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#### REFERENCES:

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Ann. Allergy, 8:682, Sept.-Oct.

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# DELAWARE STATE MEDICAL JOURNAL

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## THE GYNECOLOGICAL CARE OF POST-MENOPAUSAL PATIENTS\*

FRANKLIN L. PAYNE, M. D.\*\*

Philadelphia, Pa.

The menopause occurs when a patient terminates her last menstrual period. While this time may be difficult to recognize clinically, for practical purposes the history of amenorrhea for six months, at or near the menopausal age, with the development of menopausal symptoms and subsequent local atrophic changes will indicate the post-menopausal era. The types of hazards and the character of symptoms during this era are quite different from those of earlier years. Instead of the complications of pregnancy, the risks of pelvic infection and the development of benign tumors, this age is accompanied by a great increase in constitutional and local changes due to endocrine alterations that follow the deprivation of ovarian function and by a definite upswing in the incidence of malignant neoplasia. The physician's care, be he gynecologist or general practitioner, during this age consists in general of three functions: the relief of unpleasant symptoms, the treatment of local benign developments, and the early detection of malignancy.

**Unpleasant Symptoms.** These symptoms may be divided into four large groups those: involving the nervous system, attending psychologic changes, resulting from metabolic alterations and accompanying post-menopausal body changes. The characteristic unpleasant menopausal symptom is that of heat flashes and sweats, which occurs in approximately 95% of the patients. Other complaints consist of cardiac palpitation, headaches, functional gastro-intestinal disturbances, vertigo, tinnitus, paresthesias and insomnia any one or all of which may occur in the same patient. Psychologic alterations develop in

approximately 80% of the individuals and present a variety of manifestations, such as anxiety states, excitability, weeping spells, cancerophobia, and fears of inadequacy—social, physical, or sexual. There also is a frequent inclination to exaggerate the magnitude of problems that, during earlier years of life, would present little or no difficulty. Of the metabolic changes, the most disturbing is the tendency to weight gain, which at times seems to be uncontrollable and within itself produces marked depression and a sense of futility. Other body alterations consist of occasional generalized pruritis, allergic tendencies and the dreaded wrinkles along with the exacerbation of joint changes—if the patient has had prior arthritic difficulties.

The first essential in the relief of the symptoms of neurocirculatory and nervous origin is establishment of proof that they truly are menopausal in origin. Since the age of the menopause varies so widely, the task of its diagnosis is difficult frequently but not impossible. Since 95% of the patients who go through the menopause, experience heat flashes and sweats, the absence of these symptoms should warn against its existence. Indeed, the diagnosis of the menopause should be made only by the exclusion of other conditions and by the exhibition of true menopausal symptoms and physical changes. This diagnosis should not be used as a means of explaining symptoms that might well be, and frequently are, due to psychosomatic difficulties unrelated to failing female endocrine function. A present day weakness in clinical practice is that of ascribing too many symptoms to the menopause and rushing into hormone therapy prior to the establishment of an accurate diagnosis. This applies to both the management of constitutional symptoms and that of abnormal vaginal bleeding that may accompany the menopausal age. While the use of hormone therapy may be indicated, it should be instituted only after the possi-

\*Read before the Medical Society of Delaware, Wilmington, October 10, 1951.

\*\*Professor of Obstetrics and Gynecology, University of Pennsylvania.

bility of general medical and psychosomatic difficulties have been disproved and, particularly, only after serious pelvic pathology has been eliminated.

Even then, hormone therapy is not a "must", for many patients will accept a careful and sympathetic explanation of the psychologic changes and the nervous phenomena that attend the menopause along with the explanation that hormone therapy is a means of combating nature's efforts to effect an endocrinal readjustment that must come sooner or later. To administer hormones is simply a device for cushioning the reaction and abundant evidence indicates that such therapy prolongs the period of readjustment. Furthermore, estrogen therapy is likely to give rise to untoward developments, the most important of which is irregular uterine bleeding, the etiology of which must be determined. While this is answered by a diagnostic curettage many times, it is not practical to rush into this procedure immediately. In the management of patients with post-menopausal bleeding, while under estrogen therapy, the first step should be a very thorough pelvic examination, preferably while the patient is bleeding. If the blood is seen to be coming down the cervical canal, if the lower genital tract is clear, and if the internal organs are normal to palpation, the next step is the immediate withdrawal of all estrogenic therapy. This will result in withdrawal bleeding frequently, which may continue for one or two weeks. Persistence of the bleeding longer than two weeks or recurrence of the bleeding during subsequent months in the absence of estrogenic therapy indicates an immediate diagnostic curettage. When curettage is not indicated, it is advisable to urge monthly interviews and examinations for at least six months; otherwise some patients will fail to report what they consider to be unimportant staining. While this policy of delay is recommended in the event of vaginal bleeding during estrogen therapy, it is not recommended in the event of such bleeding in the absence of this therapy. Sixty per cent of the instances of spontaneous post-menopausal bleeding have been proven to be malignant in origin, therefore, its occurrence indicates immediate, careful and complete investigation.

Certain conditions contra-indicate hormone therapy such as the presence of breast adenosis, premenstrual tension, small myomata or endometriosis, previously treated malignancy, or a family history of malignancy. If estrogen therapy is deemed necessary, the oral administration of the natural estrogens is the most practical and satisfactory. This is preferable to the hypodermic administration since it produces a constant level of the hormone in contrast to the peaks that follow hypodermic injections. It is well to insist upon a short period of abstinence, such as three weeks of medication and one week of "vacation". Patients should be urged to restrict the dose to the minimum requirements for relief of symptoms and gradually to dispense with it altogether. Unless this advice is given there is danger of estrogen habituation, just as that from alcohol or tobacco, which may persist for many years after spontaneous readjustment would have occurred under normal circumstances. Other types of hormone treatment namely thyroid, progesterone, or androgenic therapy have been suggested. In the absence of thyroid deficiency, this medication is not indicated. Progesterone does little or nothing to relieve menopausal symptoms but androgen therapy is effective in a considerable percentage of instances. It must be administered with great care to avoid undesirable side effects and usually is reserved for those patients who present contra-indications to estrogen therapy but demand some type of hormone medication. Finally, the use of small doses of sedatives and antispasmodics, especially at night, frequently will obviate the need for hormone therapy.

The psychologic changes that accompany the menopause are best met by sympathetic understanding and reassurance. Many patients are relieved by the loss of the nuisance of menstruation and the assurance of infertility—but on the other hand—much resentment arises—chiefly against the obvious fact of growing old, with loss of menstruation, tendency to obesity, unpleasant menopausal symptoms, and the fear of inadequacy. Added to this—largely due to modern propaganda—is the fear of cancer that seems to exist, to greater or less degree, in the minds of all post-menopausal women. Immediate reassurance is in order as to all the fears except the latter—

the fear of cancer—which should not be dispelled until the physician by detailed history and complete physical examination including gynecologic examination has assured himself that no detectable cancer exists. Then he is free to reassure his patient. The sense of inadequacy is best handled by sympathetic understanding, explanation, and encouragement. If weight is the problem, dietary and exercise regimens with fluid and salt reduction, are far better than the use of estrogenic pills, anorexic tablets or other hormone injections.

**Local Changes.** The post-menopausal alterations include atrophic changes in the breasts with a definite increased incidence of malignant neoplasia. Indeed, 45 per cent of the breast cancers appear after the menopause. The pelvic alterations consist of many local evidences of the withdrawal of ovarian secretion. Among these are atrophic changes in the vulvar skin and in the vaginal walls with reversal of the vaginal reaction from acid to alkaline. Local contractures, or conversely great increase in previously existing relaxations of the pelvic floor are common developments. The vulvar atrophy may produce mild pruritis, but intense persistent pruritis vulvae is more likely to result from leucorrheal discharge, glycosuria with mycotic infection, leucoplakic changes, or from local sensitivity to wearing apparel, highly scented soaps or bath salts. This symptom requires careful examination with particular attention to the possibility of leucoplakic changes of the vulvar skin. When, by exclusion, the diagnosis of unexplained pruritis vulvae is made, it usually will respond to warm sitz baths and to the local application of bland ointments. Estrogenic cream has been advised for this symptom and it may be safe if the existence of leucoplakia has been eliminated. The presence of this condition, however, contraindicates estrogenic creams and indicates biopsy.

Post-menopausal vaginal changes predispose to infection with the development of so called atrophic vaginitis. This condition gives rise to a purulent discharge that often is irritating locally and depressing psychologically. The diagnosis of atrophic vaginitis is made by the exclusion of other conditions that might give rise to leucorrheal discharge such as trichomonal or monilial vaginitis, or more seri-

ous pathologic changes in the vagina, the cervix or the endometrial cavity. If the vagina presents the typical appearance of atrophic vaginitis, namely moderate redness with numerous petechial areas that ooze on trauma with cotton, the practical procedure is to treat this condition actively; and if the staining does not clear up after ten days or two weeks, a diagnostic curettage is indicated. The treatment of atrophic vaginitis consists of the use of acid douches (lactic acid or vinegar) and the periodic vaginal instillation of estrogenic vaginal suppositories or of an estrogenic vaginal cream. By applying the cream or suppositories locally, effective therapy is instituted without the risk of the untoward results following oral or parenteral estrogen therapy.

Local contractures are especially likely to give rise to distressing local discomfort, plus dyspareunia, in nulliparous patients who were married late in life. A similar situation may arise following extensive plastic repairs that are done shortly before or after the menopause. These symptoms may be relieved by the frequent use of sitz baths, warm douches, and by the local instillation of estrogenic vaginal cream. Occasionally, it is necessary to resort to incision, but this should be avoided, if possible, for the resultant scar is likely to exaggerate rather than to relieve the symptoms. If operation is done, it is well to prepare the patient for surgery by the preoperative use of estrogenic cream locally in order to facilitate rapid healing. It also is well to advise local estrogens and resumption of marital relations as soon as the operative area has healed.

Patients who have moderate childbirth relaxation, particularly those with heavy physical duties, often develop increased relaxation following the atrophy that accompanies the menopause, with the appearance of symptoms that require attention. While astringent douches and local tamponade may bring temporary relief, mechanical support is required usually by means of either a vaginal pessary or surgical correction. The use of a pessary is advised when the constitutional condition of the patient prohibits operative intervention. With modern surgical methods, the safety of vaginal repair has reached a point at which it rarely is necessary to condemn a patient to an unhappy pessary life. Here, it is well to point out that the approach to pelvic relaxa-

tion, with or without descensus of the uterus, is by way of the vagina and not by way of the abdomen. When a vaginal plastic as done during the post-menopausal age, care must be exercised not to do too much, for the lack of resiliency plus the inevitable scar tissue may result in great unhappiness even though perfect anatomic restoration has been effected.

Following the menopause, the internal pelvic organs—the uterus tubes and ovaries, participate in the general atrophy—the ovaries are no longer palpable, the uterus is greatly reduced in size and usually becomes retroverted. This retroversion is so common as to be a normal finding and it rarely produces symptoms that require attention. The same is true of small myomata that may be discovered after the menopause. If the diagnosis is certain and if the aggregate size is not over 6 to 8 centimeters, the myomatous uterus should be left alone. This is not true of ovarian enlargement, however. Any post-menopausal enlargement or nodularity of an ovary, particularly any recently developed nodularity in Douglas cul-de-sac, requires immediate surgical exploration because of the great likelihood of ovarian malignancy.

**Early Detection of Malignancy.** The most important, if not the most obvious portion of gynecological care in the post-menopause, is that of the early detection of pelvic malignancy. While the menopause reduces the variety of genital hazards, the risk of carcinoma is enhanced. Table I shows a review of the

TABLE I

Committee for the Study of Pelvic Cancer	
Patients with Pelvic Cancer	2219
Post-menopausal Patients	1332 (60%)
Post-menopausal Patients with Delay in Diagnosis	909 (68%)

data accumulated by the Committee for the Study of Pelvic Cancer in Philadelphia, that is so ably chaired by Dr. John Y. Howson. Of 2219 patients with this condition, 60 per cent were post-menopausal.

Nine hundred and nine, (68 per cent) of these patients were the victims of delay in the diagnosis of malignancy for one month or more following the onset of symptoms. The distribution of the malignant lesions is seen

in Table II. It is noted that cervical cancer exceeds that of the endometrium by 10 per cent and comprises almost half of the post-menopausal malignancies. Unfortunately, cer-

TABLE II

Committee for the Study of Pelvic Cancer  
Post-Menopausal Patients  
Site of the Lesion

	Number	Percentage
Cervix	643	48
Endometrium	500	38
Ovary	121	9
Vulva	50	3.8
Vagina	18	1.2
Total	1332	100

vical cancer has become known as a disease of the pre-menopause and endometrial cancer as one of the post-menopause. There are no age limits for either of these conditions. Indeed, Palmer<sup>1</sup> in a recent review of 4652 cases of cervical carcinoma, found 22 per cent to be more than fifty years of age. In a similar review of 957 cases of endometrial cancer, he found 20 per cent to be less than fifty years old. Symptoms of cervical cancer, usually leucorrhea or staining, after the menopause require complete investigation just as do those of endometrial cancer, usually inter-menstrual bleeding, prior to the menopause.

It is also noted that of the 1332 patients all except 121—those with ovarian malignancy—must have experienced some sort of discharge from the genital tract either purulent, purulo-sanguineous, or actual bleeding. Malignant lesions of the tubular genital tract characteristically cause either discharge, staining, or actual bleeding long before the development of pain. In view of this fact, it seems strange that such a high percentage of these patients either allowed themselves, or were allowed, to procrastinate for more than a month before the presence of malignancy was discovered. Any type of discharge from the genital tract after the menopause indicates immediate investigation. The notion that examination should not be done while bleeding is in evidence is fallacious. Indeed, examination at the time of the bleeding is highly desirable, for

frequently it permits prompt identification of the source of the blood and the early institution of treatment.

The vulvar and vaginal malignancies comprise five per cent of the total number. Prognosis for these conditions, which are prone to develop after the menopause, is notoriously poor. A large factor in the poor prognosis is the advancement of the lesion before it is recognized. Another important element is the common association of vaginal carcinoma with malignancy of the upper genital tract. Since ninety per cent of vaginal carcinomas are metastatic in origin, the appearance of such a lesion indicates thorough investigation of the upper genital tract and if this is negative, of the breasts and the entire gastro-intestinal system as well as the urinary tract.

Because sixty eight per cent of these patients were not diagnosed for more than a month, it seems wise to itemize the sites of the disease in relation to the delay. This is done in Table III. The incidence of delay was high-

TABLE III

Committee for the Study of Pelvic Cancer  
Post-Menopausal Patients  
Delay Versus No Delay in Regard  
to Site of the Lesion

Site	Delay	No Delay
Cervix	418 (65%)	225 (35%)
Endometrium	361 (75%)	139 (25%)
Ovary	77 (64%)	44 (36%)
Vulva	41 (82%)	9 (18%)
Vagina	12 (66%)	6 (34%)
Total	909 (68%)	423 (32%)

est in vulvar carcinoma. Characteristically this lesion occurs in older people, who, despite such symptoms as itching, burning, slight staining, and even the appearance of an ulcer, are loathe to submit to pelvic examination. Another cause of delay is the tendency of some physicians to treat this condition with salves and creams in lieu of a definite diagnosis. The lowest incidence of delay is seen in ovarian malignancy. This is due to the insidious nature of ovarian carcinoma which commonly reaches the inoperable stage prior to the development of symptoms. Since this

is the case, some gynecologists have recommended the extirpation of normal ovaries at the time of laparotomy when the patient is past forty years of age. We cannot condone this policy, for we believe that it is better to avoid the surgical menopause by conserving ovarian tissue and by re-examining the patients at regular intervals. By so doing, the very occasional ovarian enlargement may be detected in time for effective treatment.

Little good comes from the presentation of these figures, unless the reasons for the delay are determined. The Committee for the Study of Pelvic Cancer, in analysing the responsibility for the delays, found that 22.4 per cent lay at the doorstep of the physician, 22 per cent were due to combined procrastination on the part of both the physician and the patient, and 55.6 per cent resulted from failure of the patient to report symptoms or from her failure to accept the physician's advice, which usually consisted of hospitalization and further investigation. (Table IV). Indeed, the

TABLE IV

Committee for the Study of Pelvic Cancer

Delay Physician Alone	204 (22.4%)
Delay Physician and Patient	201 (22.0%)
Delay Patient Alone	504 (55.6%)
Total	909 (100%)

hospitals are not entirely clear. In 31 of the 909 delay patients, (3½ per cent), a hospital staff member contributed to the delay in diagnosis and treatment. Usually this resulted from diagnostic failure in the Out-patient Clinic or from treatment of a patient for an irrelevant condition without preliminary history and examination to eliminate the possibility of genital malignancy. The reasons for delay in the diagnosis of malignancy are various, both as to the physician and as to the patient. The regular meetings of the Committee for the Study of Pelvic Cancer are attended by the responsible physicians and they have revealed many interesting facts. The problem of the general practitioner is difficult because of the failure of patients to report symptoms or because of their refusal to submit to preliminary examination or to accept the suggestion of further study. On the other



hand, the physicians' delay is due in many instances to his failure to obtain an adequate history or to do a complete physical examination including pelvic examination and digital exploration of the rectum. Finally, misinterpretation of symptoms and unwarranted reassurance by the physician before he has ascertained the origin of symptoms accounts for many delays in the diagnosis of genital malignancy.

The answer to the problem is two fold, namely, a thorough history and adequate examination. A general history with detailed questions as to the genital tract is essential. This should include questions as to recently acquired discomfort or pain in the pelvic area, dysfunction of adjoining organs (the bladder, the rectum, or the anus), the recent development of an area of ulceration, a bump or an enlargement, and finally, the appearance of any type of discharge from the genital tract. Due to the withdrawal of secretive function any discharge from the post-menopausal genital tract is pathologic. While this may result from unimportant developments, such discharge, particularly if bloodstained, should be considered as suggestive of malignancy until careful examination has eliminated its existence. The second half of the answer lies in the regularity and in the thoroughness of the examination. Preventive medicine is on the upswing, as is the concept of the early detection and treatment of malignancy. No more fruitful field of endeavor exists than that in the post-menopausal age of women, in which 60 per cent of the genital malignancies occur. The average length of life of women in 1950 is 68 years, and the mean age of the menopause is 48 years. During the twenty years following the menopause 6 out of 10 malignancies occur in contrast to 4 out of 10 during the preceding 48 years. Because of the tendency of women at this age to procrastinate and even to conceal symptoms the most effective means of both the prevention and the early detection of malignancy is that of regularly spaced and completely detailed histories and routine complete examinations of the entire genital tract including the breasts and the rectum. The present day recommendation is that every woman past 40 years of age should be accorded the benefit of this service every six months. In the past this policy might have

been misinterpreted, but the recent tremendous lay propaganda and the widespread acceptance of the cancer detection clinics prove that such a plan will be eagerly accepted by the great majority of intelligent women. By instituting this plan, we physicians will be fulfilling our obligation to our patients in the detection of malignancy either before it gives rise to symptoms or before it has advanced beyond the stage of effective therapy.

3400 Spruce Street

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#### DISCUSSION

DR. S. W. RENNIE (Wilmington): Usually in these meetings there is a paper that is down to earth, and every one gets something out of it. This paper we have just heard I think is in that category.

As Dr. Kern stated not long ago in Philadelphia, not many people, especially women, like to be cataloged as "growing old" so therefore he thought that the science of care of the old is not going to be pushed too hard and not many practitioners are going to take that up. However, every practitioner, whether a general practitioner or specialist, has to recognize certain physiological changes which occur in age, and realize that these are not pathological.

I wish to emphasize Dr. Payne's words about malignancy, a condition which is always to be watched for, certain office procedures, such as the Papanicolaou smear, endometrial biopsy of cervix before it is cauterized, the endometrial biopsy with the small curettment, examination of the breasts, etc., are simple procedures and often reveal pathology.

It is interesting to look back on certain cases and reflect what could have been done to help those women who are in some emotional distress. The psychiatrist perhaps is the final answer to many of these cases, but there are borderline cases in which the emotional unrest can be helped by all of us, especially the gynecologist.

It is unfortunate that sometimes certain gynecologists will examine a woman and tell her there is nothing wrong with her and out she goes. He never takes time to talk to her. A nervous, tired woman comes in with a low hemoglobin; she may have a malignancy.



However, in taking the history of such condition, if it has been of long duration it is probably functional in character, and perhaps the history may elucidate the things that are causing this condition, or the general condition can be worked upon, and many of these women can be helped if the trouble is taken to get a good history. Many women have more trouble in their mind than in the pelvis. A woman who is mentally stable, who has been an insensitive type, may have no difficulty at all with the menopause. On the other hand, all kinds of troubles may arise in the woman who has been more or less depressed—she has been a trying problem to her family, and this type many times develops even an involutional melancholia and all types of distresses which are taken care of by the psychiatrist, if that goes on.

There are many causes which contribute to this. Widowhood, loss of husband's affection, loss of sexual love, loss of feeling that she is needed around the house, insecurity, and so on, that she believes is developing in her mind. The types of symptoms which do occur are many. Also, I might say, sometimes the loss of a uterus. For instance, the patient is operated upon, perhaps for a benign tumor. But if this woman can be talked to before and have explained to her what the condition is, and what her outcome is going to be, I believe many of the psychic distresses and emotional unrests which frequently occur after the hysterectomy can be avoided.

We often see cases with diarrhea, for instance, rigidity, vomiting, gastric upsets—all perhaps brought on by reason of an emotional background, which is menopausal in that particular patient. Pathological changes are not too difficult to determine if a good examination is done. But the neuroses are terrible and difficult at times, and it is among these menopausal patients that most of these conditions are found.

So I must say, do not rely entirely upon hypodermic estrogenic therapy to relieve these patients, because it won't do it. To correct these symptoms I think it is necessary to sit down and talk to these patients, and if you allow them to talk they will really tell you what is wrong with them. And, emphasizing Dr. Payne's remarks on malignancy, a thorough checkup, pelvically, rectally, and

the breasts, is indicated as a routine procedure at the office, and I believe a great many of our pathological conditions will be detected. On the other hand, we do find certain emotional conditions that I think are very difficult to undertake.

Dr. A. H. SEEGAR (Wilmington): Dr. Payne has stressed the frequency of carcinoma in the post-menopausal woman and the delay by the patient and the physician in the diagnosis and treatment of the condition and we must keep trying to prevent these costly delays by education of the public to symptoms and to routine examinations and the education of the physician to doing pelvic examinations to make an early diagnosis.

However, what has interested me even more is trying for something even better than this; that is for segregating out those people who are most apt to develop pelvic cancer even before this cancer occurs.

Dr. Payne pointed out that 95% of women have hot flushes at the time of the menopause, but what of the other 5%? Those are the women who maintain high estrogen levels through and after the menopause. These women with a late menopause, the bloody menopause without hot flushes, with little or no pelvic organ atrophy after the menopause, are the ones who should be watched with the greatest care for corpus cancer, for it is in this group that the bulk of the corpus cancer is noted.

Clyde Randall once said that he had never seen a case of corpus carcinoma in a woman with marked vaginal atrophy, in a woman whose vagina stained poorly with Lugol's solution. There may be some such cases but they are relatively rare. These women, then, should be watched very closely for corpus cancer.

In cancer of the cervix, the job is somewhat easier. If non-invasive cancer of the cervix is present for 6-12 years before invasive cancer develops, then routine office biopsy of the apparently normal cervix should assure diagnosis at a time when the cure rate is 100%. Such diagnosis is far preferable to waiting until cancer occurs. Gusberg has shown that such routine biopsy yields 2% cancer in situ of the apparently normal cervix.

Dr. J. W. BARNHART (Wilmington): I just wanted to ask a couple of questions of Dr. Payne. Many of us practicing medicine have

done only general physicals, including pelvis, which I think should be done, but in all our examinations I have often wondered if we are doing an adequate examination, and doing right by our patients.

The question is, with the practicing physician in the office: is endometrial biopsy a justified procedure? I have often felt it is a kind of meddlesome type of surgery. And as to curettage, I feel that if there is need for curettage that it should be a thorough curettage, not an office curettage.

Another thing, in passing—on the presence or absence of pelvic malignancy in general medicine, with the difficulty of the Papanicolaou stain, is routine stain his regular procedure? And I have often wondered if it is justifiable to charge the patient five dollars for this added study? I would like to know Dr. Payne's impression on these two studies.

DR. PAYNE: To answer the two important questions asked by Dr. Barnhart:

No. 1, as to endometrial biopsy. I do endometrial biopsies in my office very frequently, but I do them for the sole purpose of studying the physiology of the endometrium in premenopausal women. After the menopause, such a procedure would be an extremely dangerous one, and, furthermore, any attempt to rule out the presence of endometrial malignancy by endometrial biopsy will fail in the vast majority of instances, for the reason that the likelihood is that you don't get the entire lining of the uterus.

The only way to be sure the patient doesn't have endometrial cancer is to put her to sleep in the hospital, scrape inside of the uterus as thoroughly as you possibly can; not by an office curettage or office endometrial biopsy.

As to the Papanicolaou stain: I wish I trusted the results of that stain or smear as much as some of my friends do. I wouldn't have to work nearly as hard. I am quite certain, though, that if my wife had spotting after menopause, I would not depend on Papanicolaou stains. There have been too many false positives and too many false negatives. It may be all right for a routine use, as with cancer detection clinics, who are seeing thousands and thousands of patients, but when you come down to the actual question: Does this patient have endometrial malignancy?—scrape the inside of the uterus and send the

sample to a good laboratory. Then you know.

Dr. Rennie feels just as I do about the management of patients at this age. I did general practice for eight years before I limited my work. It was the best eight years I ever spent, and I am quite certain that I am a better doctor for it. I appreciate the problems with which the general practitioner is confronted, but I do believe now, in contrast with twenty years ago, it is easier for the general practitioner to persuade patients to submit to regularly-spaced gynecological examinations.

Therefore, I think that it is our job, if they do object to these things, to educate them to the point at which they will accept such examinations so that we can pick up any genital malignancy, including the breasts, before it is advanced to the point at which we can do nothing therapeutically.

#### POTENTIAL DANGERS FROM INCOMPLETE EXAMINATION OF THE PREGNANT WOMAN\*

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The steady decline in maternal mortality from 58 per 10,000 live births in 1935 to 12 in 1948 is in part the result of the recognition of the value of careful prenatal supervision. In addition to the decrease in mortality the number of women incapacitated as a result of pregnancy, although not statistically obvious, is substantially less. Supervision during the prenatal period constitutes only a part of total obstetric care and in itself may be less important in the prevention of death than care during labor and delivery. Careful evaluation of the prenatal patient will however indicate those in whom an abnormality is present or may subsequently develop and thoughtful management during the pregnancy will aid in detecting complications at their onset. A program aimed at the recognition of any condition which may interfere with the normal course of pregnancy or which may make pregnancy dangerous for the patient will aid in reducing death and disability. Ideally such a program should include complete pre-pregnancy evaluation of the prospective mother since in certain instances con-

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ditions which either temporarily or permanently contraindicate pregnancy may be present. Discovery at this period may permit their correction after which pregnancy may be safer for both mother and infant.

Evaluation of the pre-pregnant or prenatal patient must include 1) a complete systemic history and physical examination, 2) a pelvic examination including visualization of the cervix through a vaginal speculum, 3) internal manual evaluation of pelvic size, 4) a miniature chest film or at least fluoroscopy, 5) examination of the urine for protein and sugar, 6) determination of the hemoglobin or hematocrit, 7) determination of the blood Wassermann reaction and 8) determination of the Rh factor. This routine is possible in any physician's office and if it is systematically carried out on each patient few pathologic conditions will be overlooked. It is not uncommon that "prenatal care" is administered for several weeks or even months to women who are not pregnant. Although amenorrhea is characteristic an accurate diagnosis of pregnancy cannot be made without complete pelvic examination. Should there be a question as to the presence of a pregnancy at the initial visit repeat pelvic examination in two or three weeks usually will reveal the true state of affairs. If the uterus has softened and increased in size during the interval it is likely the result of a pregnancy, whereas if it is unchanged one should be suspicious that the amenorrhea is on some other basis. Biologic tests are expensive, not always accurate and may be confusing rather than helpful. Until it is definitely proven that a pregnancy exists one should not launch the patient upon the course of prenatal care.

Certain medical conditions may be so early or so mild that they do not affect the normal activities of the nonpregnant woman; pregnancy however may increase their severity or the normal changes associated with gestation may influence their course. In most instances such lesions are detectable by complete history and careful examination.

In most large obstetric clinics reduction in deaths from hemorrhage and infection has increased the importance of *cardiac disease* as a cause of maternal mortality. That these deaths can be substantially reduced by careful prenatal supervision is proven beyond doubt;

this can however be accomplished only if the lesion is recognized. The normal physiologic changes associated with pregnancy add to the cardiac load and may increase symptoms which have been minimal in the nonpregnant state or may precipitate them in women who have been asymptomatic and unaware of cardiac pathology. Such changes include increases in plasma volume which may average 20-25 percent at its peak late in pregnancy, in size of the vascular tree, in cardiac output and in general metabolism. If cardiac disease is detected early a planned regimen of supervised rest, protection from infection, pre-delivery hospitalization and digitalization when indicated will reduce both maternal and fetal mortality. In addition therapy which may be contraindicated for the cardiac patient can be avoided as is illustrated in the following case report:

L. F., age 32, white, Para ii, Gravida iv, was first examined at the eighth week of her fourth pregnancy. The past history revealed no symptoms suggesting a cardiac lesion or a previous rheumatic infection. Two earlier pregnancies had terminated normally and one by abortion. A harsh cardiac murmur was described but a diagnosis of heart disease was not made. At the 20th week of pregnancy the patient was admitted to the hospital with a severe pyelonephritis which had been present for 5 days. Because of dehydration 10% glucose was administered rather rapidly intravenously. After 1500 cc. of fluid had been given she developed cyanosis, dyspnea and pulmonary edema. The cardiac decompensation was treated and the patient ultimately was delivered at term after spending the rest of the pregnancy at almost complete bed rest.

**Pulmonary tuberculosis** may be present in a stage so early that the lesion is undetectable by physical examination alone. If chest x-rays are taken of every prenatal patient a number who have early infections not clinically obvious will be found. The mortality rate from pulmonary tuberculosis first discovered after a pregnancy is high because the lesions often are advanced. If proper therapy is initiated early the maternal mortality will be reduced and contact infection of the newly born infant may be prevented.

**Essential hypertension** complicated by pregnancy may be responsible for maternal

death from abruptio placenta, cerebral hemorrhage and superimposed pregnancy toxemia. In those with signs of vascular degeneration in the retinal vessels reduced renal function and blood pressures above 200/110 the risk from pregnancy is so great that early interruption must be considered. The lesser degrees of hypertension are not necessarily incompatible with pregnancy but suggest that hospitalization and thorough evaluation of the patient is necessary. Such evaluation should include general physical examination, eye ground studies, urine examination, urine concentration and urea clearance tests, determination of the blood urea nitrogen level and multiple blood pressure recordings. Should these studies reveal no remarkable deviation from the normal pregnancy may be allowed to continue but supervision must be careful. Since serious complications occur so frequently mere recognition of hypertension is insufficient, rather a careful prenatal program including frequent visits, weight control and rest should be planned and discussed with the patient. Here again by pre-pregnancy evaluation those whose vascular system is so damaged that pregnancy is contraindicated could be detected. This point is illustrated in the following case history:

E. W., white, Gravida i, Age: 32, had been married 5 years without conceiving. Complete infertility studies revealed a low basal metabolic rate in the patient and reduced sperm count in the husband. After therapy the patient became pregnant and only then was severe hypertension discovered. The patient was then referred to us for evaluation and treatment. The blood pressures in the hospital averaged 210/105, examination of the ocular fundi revealed organic changes in the vessels compatible with long standing hypertension and orthodiagram showed moderate cardiac enlargement. It was our opinion that continuation of the pregnancy would subject the patient to an undue risk and termination was advised.

**Diabetes mellitus** may first be recognized during pregnancy and is to be suspected if sugar is found in the urine. The fetal mortality associated with untreated diabetes may be as high as 50-60 percent; both this and the increased maternal mortality can be substantially reduced by careful management. The

presence of reducing substances in the urine is not uncommon during pregnancy and may represent lactose which is produced normally by the mammary glands during pregnancy and is of no consequence. While glycosuria can occur in the normal individual due to the physiologic depression of the renal threshold for glucose it may also indicate diabetes. The latter can only be eliminated by a glucose tolerance test which is indicated in every patient in whom a positive urine test for sugar is detected. The history may be suggestive in that large babies are characteristic of diabetes or the prediabetic state; although all women who have had infants weighing 9-10 pounds do not have diabetes such a history indicates the need for careful investigation.

**Anemia** during pregnancy is common but all patients in whom the hemoglobin reading is reduced are not necessarily abnormal. The physiologic increase in plasma volume dilutes the blood sufficiently to lower both the red cell count and the hemoglobin although the total amounts of these blood elements actually are increased. Thus the lower normal limit of the hemoglobin reading during pregnancy is 10 grams, far below that for the non-pregnant woman. Correction of true anemia is important because a patient whose count is low can die as the result of hemorrhage which might not have affected her had the blood been normal. A blood count during each trimester of pregnancy, the last one within a month of term, will indicate those who require therapy. Iron preparations are less effective in the pregnant than the nonpregnant woman hence transfusion is more often necessary. If the hemoglobin falls below 10 grams and does not respond to iron therapy, transfusion must be considered. In most instances blood should be administered without preliminary iron treatment if the hemoglobin is less than 9 grams. The results of prepregnancy detection and treatment of anemia are far superior to those from therapy arising during the gestation period.

**Rh negative** women may have become sensitized during a previous pregnancy or from transfusion with Rh positive blood. Erythroblastosis in the infant will result from such sensitivity and since there is no preventive treatment for this condition preparations must be made for treatment of the infant.

Immediate postdelivery transfusion of the baby offers the main hope for survival but unfortunately is not always successful. All Rh negative pregnant women should have the antibody titer determined during pregnancy in a reliable laboratory since this will indicate those whose infants may be affected. Here again pre-pregnancy titer determination will indicate those who have been sensitized and in these pregnancy should be postponed.

**Syphilis** has little affect upon pregnancy as far as the mother is concerned but it may be lethal for the fetus. If syphilis is diagnosed and properly treated prior to the middle of pregnancy the fetus is protected in almost every instance. Blood for serologic test should be drawn at the first prenatal visit and treatment initiated at once should the infection be present. Penicillin administered late in pregnancy will arrest the disease in the fetus but, of course, will not correct damage already done. Treatment, therefore, must be started whenever the diagnosis is made regardless of the stage of the gestation.

In addition to the medical complications discussed above there are other more localized conditions which may interfere with normal pregnancy or delivery. **Contracted pelvis** has little or no effect upon the course of the pregnancy before the onset of labor, however in order to anticipate the type of delivery prenatal evaluation of pelvic size and shape is important. At the time of the initial pelvic examination internal measurements which include an estimation of the diagonal conjugate, palpation of the lateral pelvis at the inlet, estimation of the length of the ischial spines and the slope of the side walls are taken. The classical external measurements of the bony pelvis are no longer taken in our clinic or practice since they are almost valueless in estimating the size of the pelvic cavity through which the baby must pass. The outlet often is neglected although its adequacy is of utmost importance for the vaginal termination of labor. If late in labor the outlet is found to be too small to permit delivery the infant may be lost, whereas if a small outlet is recognized before the onset of labor this catastrophe may be prevented. Measurements of the outlet include an estimation of the pubic angle which should be greater than  $85-90^\circ$  or sufficiently wide to permit the insertion

and slight separation of 2 fingers, measurement of the distance between the ischial tuberosities and palpation of the lower sacrum and coccyx. "Resistant" perineal soft tissue offers little difficulty since it can be incised.

X-ray pelvimetry offers little for the ordinary obstetric patient but can be of great importance if the pelvis is abnormal, the fetal size excessive or the presentation unusual. Preliminary manual measurement of all pelvises will indicate those in which a more precise evaluation is indicated. If x-ray pelvimetry is necessary the time at which it will give the most information is during labor since then the relationship between the size and position of the presenting part and the pelvis can be determined. X-rays taken early in pregnancy are of little value during labor since they give no indication of the size of the infant which must pass through the pelvis.

**Ovarian neoplasms** are not frequently encountered in pregnant women but should such a tumor be present it may prevent vaginal delivery. These tumors may be detected at the initial examination and should be removed at about the 14-16 week of pregnancy. Removal at this time is indicated in order that an exact diagnosis may be made, to prevent twisting and necrosis during pregnancy and to prevent obstruction of the pelvic inlet. Deliberate selection of cesarean section and cystectomy at term as a method of treating a neoplasm diagnosed early in pregnancy is unwarranted since an unnecessary cesarean section will be performed leaving a scar in the uterus, thereby subjecting the patient to the danger of rupture in subsequent pregnancies. On the other hand failure to examine the patient and to detect a tumor blocking the pelvis prior to the onset of labor makes such a procedure mandatory. Unrecognized ovarian cysts may, after the uterus empties itself, undergo torsion on the pedicle and necrosis making an emergency operative procedure during the puerperium necessary.

**Cancer** of the breast, uterine cervix or other organs is not common but if unrecognized may grow rapidly under the stimulus of the pregnancy. Complete physical and pelvic examination will indicate those patients in whom there are suspicious lesions; the diagnosis may then be confirmed or excluded by suitable biopsy and tissue study.



## SUMMARY

Every physician who assumes the responsibility for the care of pregnant women should be prepared to offer her all the refinements of obstetric care. The main concern of the physician must be to reduce maternal and fetal mortality to an absolute minimum and to return the mothers to as near the normal pre-pregnant state as is possible. Many conditions which can complicate and increase the hazard of pregnancy may be present without the patient's knowledge. Ideally every woman contemplating pregnancy should consult her physician for a complete pre-pregnancy checkup at which time minor abnormalities could be corrected, and any condition contraindicating pregnancy could be detected. Unfortunately many patients are educated beyond their doctors because those who seek such evaluation often are given a cursory examination or none at all only to find after becoming pregnant that a chronic condition now is considered to be a serious complication. A second choice, and at this time the more common, is complete evaluation as early in the pregnancy as is feasible. A careful initial examination is complemented by subsequent investigation which may become necessary to evaluate new symptoms or to follow up suspicious conditions previously noted. It is only by a carefully planned course of prenatal observation and treatment that patients can be brought to delivery in the best possible condition. Such supervision may play an important part in reducing maternal and fetal mortality.

3400 N. Broad Street

PRESIDENT WAGNER: The subject is now open for discussion.

## DISCUSSION

DR. G. H. H. GARRISON (Wilmington): This has been an excellent paper and of the type that we need more of. To every one that handles maternity cases, this paper is full of valuable advice.

In the cardiaes, which should be picked up either by history or certainly by physical examination at the time of prenatal examination, we in this area believe that they should be completely worked up and studied by a cardiologist. It is from the cardiologist's report and frequent consultation that we guide our obstetrical care.

Tuberculosis in pregnancy is indeed a problem, especially in those cases that report late for their initial visit, or the early case in which the patient is advised to have a therapeutic abortion, yet demands to continue her pregnancy.

Essential hypertension in pregnancy is summed up by Cliesley's paper in the American Journal of March 1947, in which he studied 301 pregnancies, with 218 hypertensions. He found the gross fetal loss to be approximately 35%; the maternal mortality about 2%, which at that time was 20 times that of the hospital experience at large.

Among the one-third of the hypertensives who developed superimposed toxemia in pregnancy, and about a third did, the maternal mortality was 12.2% and a fetal loss of about 50 per cent, or about three times that of the hypertensive who had escaped superimposed toxemia. Therefore, pregnancy in a hypertensive and superimposed toxemia should not be allowed to persist, in consideration of either the mother or baby, because it is not only futile, but the second thing is, you lose more mothers than babies by doing it.

Now, in regard to the anemia in pregnancy, it is of interest that if repeated blood cell counts are done, there is a relative decrease in both of them at about the third and eighth month of gestation. The eighth month dip is easily understandable because at this time the blood reaches its maximal dilution as a result of the increase of plasma. Why the third month dip, I do not know.

I would like to ask the essayist how much attention he pays to the Rh titre in the mother, the initial titre, or if the titre increases, when does he elect or determine to terminate the pregnancy?

I heartily agree that the clinical external pelvic measurements are practically valueless. The chief use, if it can be called a use, is that of using the big shiny pelvimeter and hollering numbers to the office nurse. Briefly, you can't tell the diameter of a house by measuring the outside walls.

The psychosomatic nature of the mother during pregnancy is important, and it is only through a sympathetic attempt to explain in a logical manner what could be causing her various symptoms that this type of trend can be countered.



DR. ANDREW M. GEHRET (Wilmington): I understood the doctor to say that he treats lues early in pregnancy, and previous to placentation, that is, formation of the placenta. It was my impression that best results were obtained after the formation of the placenta.

Then, too, I would like to ask whether he still thinks it necessary to re-treat pregnant women who previously had had syphilis but now are considered to be cured?

DR. WILLSON: I thank the discussants for the points they added.

Certainly the psychosomatics of obstetrics involves more than twenty minutes. It is a highly important aspect of prenatal care which I chose to eliminate, not because I don't think it is important, but simply because there was not enough time to get involved in it.

As to the Rh titers, I am not sure exactly what increasing titer means, principally because the determination of Rh titer is relatively inaccurate. I don't believe we can draw too many conclusions from the Rh titer, we'll say. We don't terminate pregnancy on the basis of titer, and in these patients now our general tendency is to let them go to term and deliver normally, and then to be prepared for immediate transfusion of the baby. The baby's blood count is checked, and if it is normal or if it is high, then the transfusion is delayed temporarily. But the baby is watched constantly, repeated blood counts are checked every few hours, and if it continues to drop, the baby is then transfused.

One of the serious problems of the Rh and titer is the fact that they are exceedingly difficult and that if they are not run in the proper manner they are all wrong. There was a recent evaluation of Rh titers in various laboratories over the country, and from one laboratory a report was returned of no agglutination, in some sheep's blood that was sent to the laboratory. Of course, if they are really titered properly they would get a positive for the patient. So, as far as the Rh titer is concerned, I am not sure that repeated titers are necessary. I think every patient ought to have at least one, so that you can be prepared, and I think that one ought to be during the last trimester of pregnancy to be properly evaluated.

As far as the treatment of lues is concerned,

presumably if a Herxheimer reaction occurs with the treatment of lues, the placenta may separate. There have been cases reported of placental separation with the use of penicillin in the treatment of lues in pregnancy. We have, however, treated the patient as soon as the condition was diagnosed, and so far have had no difficulty with the placenta. There can, however, be little harm in waiting until placentation has occurred, perhaps 14 or 15 weeks, because in the classic studies of lues during pregnancy those patients in whom treatment was started before the twentieth week of pregnancy, the infection of the fetus was prevented in almost every instance. That, of course was done with bismuth and so on. I think it would be safer to delay that therapy.

We have in the past also re-treated all patients who have had lues, even though there was no sign of infection, and even those that have negative serology. However, there is a mass of evidence that must amount to at least a thousand patients who have been delivered without re-treatment. That is, patients are treated with penicillin who have been delivered without re-treatment, and have been free from lues. So I would think if the patient has been adequately treated with penicillin, and if she has a negative serology, that re-treatment is not necessary.

#### THE IMPORTANCE OF EARLY DIAGNOSIS OF BREAST CANCER\*

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That early diagnosis is the most important factor determining the curability of breast cancer is universally accepted. Breast cancer is the commonest cancer affecting women. It accounts for one-fifth of the cancer deaths in this sex. It occurs in an organ easily accessible for examination, and one which lends itself to wide surgical removal together with its regional lymph nodes. Why then should so many deaths be due to cancer arising in the breast? Obviously, the diagnosis is not being made in the early, curable stage of the disease.

By definition, the early cancer is small, limited in extent, and without distant meta-

\*Read at St. Francis Hospital Staff Meeting, January 22, 1952.  
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stasis. The time factor from onset to treatment is important, but does not tell the whole story. One cancer may grow and spread very slowly, and be curable months or years after onset, while another of rapid growth may be incurable within a few weeks. Rarely, multicentric origin occurs: this is a bad prognostic sign. Pain is usually absent in the breast cancer (a frequent excuse to postpone examination on the patient's part); when present it indicates rapid growth and a serious prognosis.

The size of the primary tumor is also an indication of the stage of the disease. Several years ago Lewis and Geschickter, in a review of the Johns Hopkins Hospital cases, found that most of the long term cures result when the primary tumor is not over 2.5 cm. in diameter (as measured by the pathologist, since to palpation the mass is always magnified in size by overlying breast tissue and fat). A similar relationship between the size of the tumor and long term survival can be shown in the series reported below.

The presence or absence of axillary node metastasis is also important in estimating the stage of the disease and its curability. The truly early cancer has not metastasized to the axilla and the prospect of cure is good (75-80% in most reports). The presence of one or two small metastatic nodes in the axillary base immediately changes the picture, and when extensive axillary node involvement is present only a few cures can be expected by the most radical surgery, since unrecognized distant metastasis is probably also present.

Such obviously unfavorable clinical signs such as extensive lymphedema of the breast, cutaneous cancer nodules, metastatic nodes above the clavicle or in the opposite axilla, edema of the arm, or distant skeletal or visceral metastasis do not come within the scope of a paper on early diagnosis. The majority of such cases should be classified as advanced, inoperable, suitable for palliative therapy only. Nor is this the place to discuss the treatment of recurrent or metastatic carcinoma, for which much may be done by radiation therapy, hormones and perhaps chemotherapy to alleviate symptoms and prolong life in comfort.

Early diagnosis of breast cancer depends on two individuals: the patient, and the phy-

sician first consulted. It is my impression that patients today are much more alert in detecting abnormalities of the breast, much readier to seek medical advice, and much more insistent on adequate, thorough examination. It is also my impression that physicians are much more careful in their diagnostic examinations, much readier to entertain the diagnosis of cancer, and more willing to get consulting advice in doubtful or difficult cases. However, the chief causes for delay in diagnosis remain. Most often, the patient is singularly indifferent to changes in her own breast; how can we explain otherwise the large breast mass discovered just a week or two before consultation? or she may be aware of a mass, but avoid consultation out of fear. I believe delay on the patient's part has been reduced considerably by the educational programs of the Public Health Service, the insurance companies, and particularly the American Cancer Society. There remain many women who are not reached in this manner, hence I believe the physician should instruct his patients in self-examination of the breast. Her job, of course is not self-diagnosis, but the discovery of either breast deformity or breast mass, for which she must consult her physician.

In general, the practicing physicians today are keenly aware of the possibility of breast cancer and the importance of early diagnosis. The old advice "if it doesn't bother you, don't bother it" no doubt was conditioned by many doctors' conviction that surgery disseminates breast cancer, as it does if the advanced, hopeless lesion is subjected to surgery. Under present conditions, when surgical cure of the early breast cancer is a commonplace, when even elderly patients can safely be subjected to operation, such advice is rarely heard. Occasionally, the age of the patient delays diagnosis, as in one of the cases reported — a twenty-four year old woman consulted four surgically trained physicians over a three month period before a diagnosis of breast cancer was made and radical mastectomy performed. Another medical error sometimes made is inadequate biopsy: the tissue removed does not contain the cancer, the patient is reassured, and the cancer grows steadily adjacent to the biopsy scar. I have seen at least six such cases, and only one survived five years. In one case, a submammary incision

was used to reach an upper quadrant tumor in a large breast. Finally, the initial surgical treatment may be inadequate or improper. For example, preliminary biopsy followed by radical mastectomy without closure of the original incision and without change of drapes, gowns, gloves and instruments may implant cancer cells in the new incision.

#### REVIEW OF CASES

In preparing this report the author reviewed all his personal cases, as well as those service cases performed by surgical residents under his direct supervision. The cases were analyzed with respect to duration, size of primary tumor, presence (and extent) of axillary node metastasis, and survival. Operable cases only were considered, since we are here concerned with early cancer. A much larger group of advanced, primarily inoperable breast cancer and of locally recurrent or metastatic cancer was not considered. For the years 1937 through 1946 the cases are classified as failures (died, or living with recurrent disease) and successes (living and well for the period of observation). Deaths after the five or ten year period, if due to cancer, were considered failures; if not due to cancer were subtracted only in the survival period in which death occurred. No cases were lost from observation.

TABLE I  
Results of Mastectomy for Cancer

Year	Total Cases	Failures		Successes	
		5 Yrs.	10 Yrs.	5 Yrs.	10 Yrs.
1937-41	4	0	0	4	4
1942-46	28	8	2	18	
All Cases					
Followed	32	10		22 (70%)	
5-10 Years					
1947-51	70	15 (to date)			
Total					
Mastectomies	112				

Of the ten failures among those followed at least five years, the average duration of the tumor was ten months (1—24 months, 5 more than 12 months), the size of the tumor was 1.0 to 2.5 cm. in 3, 2.5-5.0 cm. in 3, over 5.0 cm. in 2, and 2 patients had double primary can-

cers. Axillary metastasis was present in 9 of the 10 patients. Two failures died from senility one and five years after operation without apparent recurrence. One failure refused general anesthesia and had only a simple mastectomy for a small tumor; though her nodes were not then palpable she had axillary node recurrence and died of cancer. Three failures lived or are living with metastatic disease more than five years after operation.

Of the 22 successful cases the average duration of tumor was 4 months (0—12 months, 8 one month or less), the size of the tumor was less than 2.5 cm. in 17, from 2.5-5.0 cm. in 4 cases. Axillary metastasis were absent in 14, present in 7, uncertain in 1. One 7 year survivor was omitted from the calculation of tumor size and duration: she had a slowly growing gelatinous adenocarcinoma of 7 to 15 years duration which reached a size of 12 x 7.5 x 6 cm. without metastasizing. One 7 year survivor delayed operation 10 months and 2 years later had a normal term pregnancy. Four recent cases have also become pregnant.

The more recent series, the end results of which are not yet apparent, already shows 15 failures, all but one of which had positive axillary nodes, all but 2 of which had tumors larger than 2.5 cm. However, 4 patients gave a month's history of tumor, 4 others less than 6 months, none over a year, except one who had a breast mass 16 years! The short history must mean that these patients had tumors of very rapid growth, or failed to notice tumors of long standing.

**A palpable mass** is the single most important sign of breast cancer. This is usually sharply defined, but may be obscured by a large amount of breast tissue. Very small cancers may be mobile and simulate adenofibroma; hence all tumors of the breast should be excised for diagnosis. So-called chronic mastitis is sometimes difficult to differentiate; when the mass seems to be a plaque of mastitis this diagnosis should be deferred until re-examination after the onset of the menstrual period confirms its cyclic involution. Cysts of the breast under tension, particularly when imbedded in mastitis, sometimes simulate solid tumors. Here aspiration is of value. If the mass *completely disappears* after aspiration of clear, opalescent, or milky fluid, it

may be considered a cyst, but re-examination after a month or two is always advisable. Should *bloody* fluid be obtained, the possible presence of cancer must be ruled out by surgical biopsy.

**Deformity of the breast or nipple** is the second important diagnostic sign. Sometimes the cancerous breast is larger or more prominent than its fellow. More often there is elevation of the breast, deviation of the nipple, or retraction of the nipple *toward* the tumor. This is best recognized with the patient sitting in a good light with both breasts exposed. Elevation of the arms, pressure on the hips with arms akimbo, or forward bending with arms elevated, frequently exaggerates the deformity, which may be no more than slight flattening of the breast adjacent to the cancer. Whenever deformity of breast or nipple is associated with a mass, cancer is the most likely diagnosis. Dimpling of the skin over a cancer is not always apparent unless the skin is fixed with the fingers of one hand and the tumor displaced with the other, and is best seen with oblique illumination.

Bleeding or brownish discharge from the nipple is due to cancer in about 25% of cases. Most commonly, a lacteal duct papilloma is the cause. Papillomas, of course, should be excised as a possible precancerous lesion. Often they are difficult to palpate and are most easily located by inserting a lacrimal duct probe into the bleeding duct and excising the probe.

Axillary lymph node enlargement is of prognostic importance, but its absence should not influence us in the diagnosis of early breast cancer. By definition, the early cancer should not have spread to the nodes. Likewise, such signs as edema of the breast, fixation or umbilication of the nipple, and ulceration are signs of advanced cancer.

#### SUMMARY

A series of personally treated cases of operable breast cancer is reported. The series is analyzed with respect to size of tumor, duration, and incidence of axillary metastasis to emphasize the importance of early diagnosis with respect to successful surgical treatment. A few unusual cases are mentioned.

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## THE EARLY CLINICAL DIAGNOSIS OF CARCINOMA OF THE CERVIX\*

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The wording of my subject this evening, the early "clinical" diagnosis of carcinoma of the cervix, makes it possible for me to impress upon you what I think is the most important part of this paper: that when a diagnosis of carcinoma of the cervix is possible on clinical grounds, it is never "early." The diagnosis of early carcinoma of the cervix is based purely upon laboratory methods. A high index of "cancer suspicion" will lead us to seek these examinations as early in the disease as possible.

The importance of seeing malignancy early cannot be overstressed. Our great hope for salvage of cancer victims today lies predominantly in favor of early diagnosis. No matter how refined our present armamentarium of treatment may be, the finding of a cancer in its early stages will outmatch the great ingenuity of therapy. Truly, an ounce of prevention will outweigh many pounds of cure!

With respect to carcinoma of the cervix uteri, we have been accustomed to classify these malignancies as outlined by the League of Nations. Class 1 (or Stage 1) League of Nations implies an early lesion, limited to the portio of the cervix — definitely an early lesion. Yet 20% of such cases die from pelvic carcinoma. That is to say that even at the time when carcinoma is apparently limited to the cervix, 20% have pelvic lymphatic involvement. In such cases we should therefore expect at least 80% cure with proper treatment. In order to expect a greater percentage of cures our efforts must be directed primarily to earlier diagnosis, with no delay in treatment. Our aim must be to treat carcinoma before it has invaded the basement membrane (carcinoma *in situ*). In this way only can we expect to obtain the most nearly perfect cure rate, at least until more effective methods of treatment are established.

It behooves us to have a high index of "cancer suspicion" and to set high standards in choosing cases for study, such as:

1. Frequent and periodic speculum examina-

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tion on all women, particularly those that have had a pregnancy.

2. All patients with excessive bleeding, contact bleeding, or unexplained discharge should be examined with a speculum immediately.
3. All cervixes showing ulceration, granulation or hypertrophy in the mucosal epithelium should be biopsied.
4. A Papanicolaou smear should be taken on all cases examined which show a normal cervix grossly.

#### METHODS OF DIAGNOSIS

1. **Papanicolaou Smear.** After exposing the cervix and posterior vaginal fornix by means of a speculum, a smear specimen is taken from the posterior fornix and endocervical canal. This is best done by means of an Ayre's applicator or by a split tongue depressor. An effort is made to scrape some of the cells from the complete circumference of the squamo-columnar junction of the cervix, since it is in this area that the great majority of carcinomas begin.

The specimen is then fixed while wet by immersing it in a solution of equal parts of ether and 95% alcohol. After fixing, it is ready for staining by the method as outlined by Papanicolaou and Schorr.

Vaginal cytological examination has drawn us a step closer to perfection in the early diagnosis of carcinoma of the uterus. Its great value lies in its applicability as a screening process in cases which exhibit no gross lesion and no symptoms or signs. It should not be depended upon to replace the study of tissue taken by biopsy. Unless this fact is realized many tragic mistakes will be made. Have we not already seen the case of the cervical ulcer upon which a smear was done with a negative report, only to result in a far advanced case after six months of complacency?

2. **Office Biopsy.** In the presence of any suspicious granulations, mucosal ulcerations or hypertrophy of the cervix a biopsy is indicated. This may be done in the office by using a punch biopsy or a Gusberg biopsy punch.

3. **Operating Room Biopsy.** The operating room biopsy is by far the most superior method of evaluating a suspicious case of carcinoma of the cervix. Under anesthesia a circular biopsy of the complete squamo-columnar junction can be made with the scalpel. It can

be combined with a biopsy of the endometrium and endocervical canal. An exact estimate of the type and size of radium applicator can be evaluated at this time, in the event that the biopsy should reveal that malignancy is present.

#### CASES

The following abstracts of cases will illustrate the value of the critical standards mentioned above:

**Case I.** Illustrates the importance of doing a biopsy in the presence of abnormal excessive bleeding, although the cervix may be innocent in appearance. M. D., age 30, white. Admitted to the hospital August 25, 1951 with a history of: (1) polymenorrhoea of four months duration. Her periods had been coming at more frequent intervals; and (2) menorrhagia of four months duration. Her periods were quite excessive, and lasted from six to ten days. Pelvic examination at that time revealed a moderate amount of bleeding coming from the uterus. Visualization of the cervix revealed it to be dilated to admit one finger, but the mucosa appeared intact. The fundus was second degree retroverted and slightly enlarged. No adnexal masses were palpable.

A fractional dilatation and curettage was done August 27, 1951, and revealed only a scant amount of endometrial and endocervical tissue. The endocervical curettings showed tissue suggesting epidermoid carcinoma of the cervix. On August 29, 1951 a repeat circular biopsy of the cervix was done and showed carcinoma in situ with beginning invasion of the stroma.

**Case II.** Illustrates the value of the Papanicolaou smear, and the greater importance of doing a biopsy when a pathological lesion is evident. T. M., age 41. She was seen in the office September 5, 1951 at which time she gave a history of bleeding and spotting for the past three or four months. She had been seen recently in a Cancer Detection Center where a "suspicious smear" was gotten. Pelvic examination in the office revealed an area of ulceration and granulation of the anterior lip of the cervix, about 2cm in diameter. There was no palpable parametrial infiltration and the fundus was movable.

A biopsy of the cervix and dilatation and curettage was done in the hospital on Septem-



ber 11, 1951 and revealed squamous cell carcinoma of the cervix, grade II.

**Case III.** Illustrates the importance of developing a high index of "cancer suspicion" even in the young patient. M. E., age 24. Was seen in the office July 11, 1951. At that time she gave a history of a normal delivery in November 1950. At her six weeks check-up an erosion of the cervix was found and the patient was advised by her family physician to return for cauterization. The patient never returned. Since that time she had increased frequency of periods with increased bleeding, excessive leukorrhea, and cramps. On examination, a lesion of the cervix was noted on the lower lip in the form of a marked granulation about 3cm in diameter and extending from the cervix onto the vaginal wall. Its base was purulent. There was no palpable infiltration of the parametrium and no fixation of the uterus.

On July 14, 1951 a biopsy of the cervix and dilatation and curettage was done. The pathologic report revealed squamous cell carcinoma of the cervix, grade II.

**Case IV.** Illustrates the importance of investigating by biopsy all cases of contact bleeding. F. R., age 34, gravida 0. She was seen in the office on December 15, 1950, complaining of bleeding on intercourse of one month duration. She had undergone a supracervical hysterectomy three years previously. Pelvic examination revealed a cervix, normal in appearance, except for one innocent looking papillary projection about 0.5cm in diameter on the portio. Bleeding was elicited on sounding the endocervix. No fundus was palpable because of the previous hysterectomy.

A biopsy of the cervix and curettage of the endocervix on January 4, 1951 revealed a squamous cell carcinoma of the cervix, grade II.

#### CONCLUSION

1. Early diagnosis is our most important weapon today against carcinoma of the cervix uteri.

2. Rigid standards must be established and a high index of "cancer suspicion" maintained.

3. The diagnosis of cancer is made by the laboratory, after proper smears and biopsies have been supplied.

4. The limitation of cytological diagnosis must be realized.

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### EARLY DIAGNOSIS OF CANCER OF THE PROSTATE\*

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In order to restrict this discussion to the early diagnosis of cancer of the prostate, I am forced to limit myself to the presentation of the problem as it arises in only five to ten per cent of the patients seen by the urologist. I shall accept the definition of what constitutes "early diagnosis" as presented by the preceding speaker, Dr. John Hynes, to be that cancer diagnosed before metastasis or extension from the primary site has occurred. Unfortunately for the patient, this early diagnosis does not occur in any more than five to ten per cent of the patients seen, according to figures from the best clinics in the country. Lowsley says that "in the past 95% of cases of prostatic cancer have been beyond hope of operative care when first seen." To improve this appalling statistic, Lowsley states that "any physician who fails to make a rectal examination on his male patients over 45 years of age is guilty of gross neglect."

In comparison to breast cancer, where 50% of cases are diagnosed early, prostatic cancer falls far behind. I suspect that if self-examination of the prostate were feasible and if rectal examinations were esthetically more attractive, the comparative figures with breast cancer diagnoses might improve.

Too often the diagnosis of prostatic cancer is made in reverse order. The metastatic lesion is found first and traced back to a prostatic focus much too late for any treatment other than palliative. The index of suspicion must be kept high if we are to recognize early prostatic cancer before metastasis occurs.

It is not the purpose of this paper, therefore, to discuss the mechanism of prostatic metastasis or to consider the common sites of metastatic prostatic cancer. Nor are we con-

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cerned with the symptoms of the metastatic lesions or the effects of extension beyond the prostate.

In the early diagnosis of primary prostatic cancer one must not be misled by the absence of urinary symptoms. The primary nodule in the prostate is too small to produce obstructive changes and its location is commonly away from the urethral aspect of the prostate. The patient may present symptoms of early prostatism, but this is not frequent enough to be relied upon. Any other symptoms such as pain, loss of weight, fractures, edema and constipation are late symptoms of no help in early diagnosis.

As far as diagnostic tests are concerned, the most important one available to all physicians is the information which can be derived from the insertion of the index finger into the rectum and carefully palpating the prostate gland. Here the experienced finger is able to relay its information to the acute physician who is seeking out those suspicious areas in the prostate which may turn out to be early cancer. The cancer must be differentiated from other lesions of the prostate which also feel hard and nodular. Such conditions as prostatic calculi, tuberculous prostatitis, benign fibromata, and leiomyositis all may manifest themselves as suspiciously like a prostatic cancer to the examiner's finger. The malignant nodule is usually in the right or left upper pole of the prostate. It is discreet, fixed, not tender, and distinctly harder than the normal surrounding tissue. The often described stony hard prostate where the entire gland feels like rock is again a late manifestation of prostatic cancer rather than an early one. There are at present only two other validated diagnostic tests for early diagnosis. One is biopsy and the other is the examination of the prostatic secretion for tumor cells according to the method of Papanicolaou. Biopsy can be a needle biopsy, which requires considerable experience in order to become a useful tool, since the possibility of missing the small nodule is not uncommon. Much better for biopsy purposes is the open perineal operation with biopsy under direct vision. Here frozen section can be done and radical surgical treatment carried out in the presence of a positive diagnosis.

The Papanicolaou stain of the prostatic sediment has been acclaimed by some investigators, but not correlated too well with positive surgical findings by others. A positive Papanicolaou stain diagnosed by an experienced pathologist familiar with cytological specimens can be acted upon with considerable certainty. On the other hand, even in the best of laboratories, many false negatives occur. So much for early diagnostic tests.

Such diagnostic tests as x-rays of the bony spine and pelvis, elevated serum acid phosphatases, elevated sedimentation rates or therapeutic benefit with estrogens, all constitute diagnostic evidence of late metastatic prostatic cancer.

Most of the therapy now being performed for prostatic cancer is palliative therapy and this I shall not discuss at this time. The therapy for early prostatic cancer as defined in this paper is of the same nature as the therapy for early breast cancer as described in the preceding presentation. This consists of complete surgical removal of the prostate and seminal vesicles immediately following a positive pathological diagnosis. This operation when completely performed offers the best hope of cure. It is usually performed in conjunction with a bilateral orchiectomy. These patients are rendered impotent and many have prolonged periods of postoperative urinary incontinence. However, in the best series reported, more than 75% of patients so operated upon regained complete urinary control within a year following operation.

With an estimated 95% mortality within five years of diagnosis in patients treated all other ways other than radical surgery, it seems a small price to pay for these patients to give up their sexual potency in return for cure of their prostatic cancer. The operation is a drastic one and, to a patient who is not subjectively sick, extremely hard to accept. Psychologically the male patient with an early symptomless prostatic cancerous nodule is not as ready to accept surgery as is his female counterpart with a similar nodule accidentally discovered on routine breast examination. This is perhaps the second largest problem with regard to treatment. The first is the difficulty in making the diagnosis early because of the lack of suspicion that such a cancer is there.

Until we discover a more attractive, less mutilating cure for prostatic cancer, the treatment of prostatic cancer will pertain as described in this paper to only a small percentage of the patients we see. It is only through the alert cooperation of the general practitioner in his routine prostatic examination of male patients that more prostatic cancers will fall within the curable group and fewer suitable only to palliative procedures that merely postpone an inevitable death.

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### DIAGNOSIS OF RECTAL CARCINOMA\*

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It can be stated at the outset that there have been no recent advances for the diagnosis of rectal carcinoma. Because the general public and physicians, as a part of that public, are becoming evermore aware of the presence of the cancer problem generally, it can safely be said that the rectal examination is becoming a more routine procedure than ever before. However, there are still many instances when this relatively simple examination is not performed as a routine measure in the general physical examination.

Rectal adenocarcinoma can be characterized as follows: (1) *nodular*, (2) *scirrhous*, (3) *colloid*, and (4) *papillary*. The *nodular* carcinoma is usually sessile and the mass projects into the lumen of the rectum and at times tends to encircle the bowel. Ulceration is not uncommon, the base of which may be necrotic. The *scirrhous* type of adenocarcinoma is that in which the fibrous elements play a predominant role over the epithelial portion, giving rise to a contracted hard mass. These lesions do occur in the rectum, but are relatively rare. The *colloid* type of carcinoma is also known as mucoid or gelatinous variety. They are found most commonly in the rectum and rectosigmoid. The *papillary* type resembles the common warty papilloma.

True epitheliomas which have their origin in the anal mucous membrane can extend into the rectum giving rise to the differential problem as to the origin of the tumor. It also should be mentioned that practically all other

forms of malignant tumors have been at one time or another described as occurring in the region of the anus and rectum. Final histologic diagnosis must be made in the laboratory.

The mode of spread of rectal carcinoma occurs chiefly in three ways: (1) infiltration; (2) by way of the lymphatics; and (3) by way of the blood stream.

*Infiltration* is used to denote local invasion both peripherally and in depth. The malignant cells invade in order: the mucosa, muscularis mucosae, submucosa, muscular coats and later the perirectal fascia. It is only after the penetration of this fascia that invasion of neighboring structures can take place.

*Dissemination* by way of the *lymphatics* is the most frequent means, and therefore the most important. From the lymph nodules and channels in the submucosa and between the muscular coat spread occurs to the lymph sinus which is outside the muscular coats but inside the fascia propria of the rectum. From this area the spread is to the glands situated between the rectum and sacrum, and from here spread occurs in an upward, downward, and lateral direction.

Carcinoma of the rectum is less prone to invade the *blood stream* than sarcoma. However, late in the disease venous radicles may be invaded and carry tumor cells by way of the superior hemorrhoidal, inferior mesenteric, and portal veins to the liver, where a metastasis is set up, usually in the right lobe. The order of frequency for metastasis from the rectum is liver, peritoneum, and lungs.

As is true generally in regards to cancer of any portion of the digestive tract, cancer of the rectum is a process which predominately affects individuals past the age of 40, in which group approximately 85 to 90 per cent of cases occur. Approximately 60 per cent occur in persons beyond the age of 50. It has been commonly observed by various individuals that when cancer of the rectum occurs in the younger age group it tends to be rather a fulminating process. Rectal cancer is two or three times more common in the male sex than in the female.

One of the most distressing features regarding early diagnosis of this disease is the fact that in the majority of cases there is an interval of between four and six months from the

\*Read at St. Francis Hospital Staff Meeting, January 22, 1952.

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onset of the first symptom to either the presentation of the patient to the physician or the establishment of the correct diagnosis.

Symptoms are often vague and variable depending largely on the duration, location, and size of the tumor. As has been constantly reiterated in the medical and lay press, a change in bowel habit is of paramount importance and warrants complete and thorough investigation. The patient may describe a slight irregularity, an incomplete or unsatisfactory movement, or a complete change from constipation to normal or loose movements, or any combination of the above. Urgency of defecation is frequently noted. Constipation may develop insidiously, for an induced inertia of the colon often does not occur until there is moderate obstruction. The constipation is of progressive variety and frequently alternates with diarrheal type of stool. Because of the inconstancy of normal bowel habit, patients frequently resort to the use of laxation in any form, with a resultant frequent desire for stool which is more reason for the diarrhea than resulting from the neoplasm itself. Care should be taken to question patients regarding early morning diarrhea, for not infrequently the history can be obtained of the individual arising between five and seven for the purpose of defecation.

Attention of the patient is frequently first attracted by blood and mucous which is noted on the outside of the stool or may be mixed with the stool and vary from bright to dark red in color. The blood may be noticed only on the tissue. Approximately 85 per cent of all patients with a malignant tumor of the rectum note blood at some time during the course of their disease. It is not common to have frank rectal hemorrhage. In many cases the observance of rectal bleeding is the earliest sign of a rectal neoplasm.

About 50 to 60 per cent of all patients describe some type of discomfort which is usually not severe. It is often noted as an uneasiness or discomfort occurring in the rectum before, during, or after defecation. Later a feeling of fullness and weight in the rectum develops which may be constant or intermittent. When the anal sphincters are implicated or the tumor mass becomes within the grasp of the sphincteric musculature, pain is more pronounced. When the growth has extended

into the perirectal strictures, this causes a heightening of the severity of pain and may be referred to the abdomen, back, hips, and down into the thighs.

In the past undue emphasis has been placed on "ribbon" or "pencil" stools. If this type of stool is present and there is a mass located in the region of the rectum it will usually be a low lying lesion and often involving the anus itself.

General symptoms, such as loss of weight, anemia, lack of strength, and urinary symptoms, are manifestations of a lesion which has spread beyond the confines of the rectum.

In relation to early diagnosis of carcinoma of the rectum the general physical examination is not noteworthy. Of importance, however, are the historical points listed as above, and next in importance is local examination of the anus, rectum, and sigmoid colon. It is well-known that approximately 75 per cent of malignancy involving the anus, rectum, and sigmoid are within reach of the finger used on digital examination. Care should be taken to carefully palpate the entire circumference of the rectal wall, for if the individual has a large rectal pouch small lesions might well be missed. When the mass is palpated it may be felt as an elevation above the surface of the mucous membrane. It is frequently firm to the touch and irregular in outline. The base is frequently indurated, broad, and fixed to the underlying tissues and the wall around the tumor is slightly thickened. Trauma from the examining finger may provoke a varying amount of bleeding and this is easily seen upon withdrawal. For tumors that lie just without the reach of the digit, it is wise to instruct the patient to strain down, for the increase in intra-abdominal pressure often forces lesions in the region of the recto-sigmoid inferiorly so that they can be palpated with relative ease.

The other most important diagnostic procedure is the procto-sigmoidoscopic examination when a rectal or recto-sigmoidal lesion is suspected. The rectum and sigmoid should be carefully cleansed prior to the examination by the administration of a plain warm tap water or saline enema. The sigmoidoscope is introduced until the tumor is located and its size, degree of fixation, and extent of ulceration, as well as the presence of blood and pus, are

noted. If the lumen is partially occluded, care should be taken not to traumatize the strictured area for rupture of the bowel wall can occur without difficulty. Once the lesion is encountered, biopsy material can be obtained and the tissue sent to the histological laboratory for pathological diagnosis. Should bleeding occur following biopsy, it may be controlled by pressure, topical application of a saturated solution of potassium permanganate or a 10-20 per cent silver nitrate solution.

The roentgenographic examination of the rectum for rectal carcinoma is unsatisfactory; and, if the diagnosis is made by the roentgenologist, it should be only at the embarrassment of the clinician.

The most common error in the diagnosis of cancer of the rectum is making the diagnosis of external or internal hemorrhoids, for it is still reported that approximately 10-15 per cent of all cases who have carcinoma of the rectum have had a previous hemorrhoidectomy.

#### CONCLUSION

Because carcinoma of the rectum is one of the most accessible digestive tract tumors, continued efforts in the direction of public education as to early symptoms and signs, and the need of thorough examination at the onset of symptoms, and the continued and progressive awareness of the clinician of the value of routine digital examination of the rectum and the more routine use of the sigmoidoscopic examination, will materially decrease the mortality statistics of this disease and of the cancer problem generally.

Early diagnosis can be accomplished only if the patient presents himself shortly after the onset of symptoms and a careful history elicits important clues followed up by proper local examination with biopsy of the lesion demonstrated.

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Speeding on U. S. streets and highways last year injured 570,080 men, women and children.

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Speeding on U. S. streets and highways last year killed 13,730 men, women and children.

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In 1951, 9,470 pedestrians were killed in U. S. traffic accidents.

#### S. P. A. D. Book Free

A patron of the Society for the Prevention of Asphyxial Death Inc., interested in making the causes and prevention of asphyxia better known among physicians of Delaware state, has kindly offered to donate a copy of the Art of Resuscitation, by Paluel J. Flagg, M.D., to the first 100 physicians who become members of the Society following the release of this information in the Delaware State Medical Journal. The reviews of this book are highly laudatory. The book lists for \$6.00. Volumes donated will be autographed by Dr. Flagg.

Physicians who wish to receive this autographed volume for their library are asked to apply for membership in the Society for the Prevention of Asphyxial Death, Inc., enclosing membership dues of \$5.00. Communications should be addressed to Secretary, S.P.A.D. Inc., 2 East 63 Street, N. Y. C. 21, New York.

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#### New York University

A seminar on the rehabilitation of children will be given October 20th through 24th, 1952, and January 19th through 23rd, 1953, at the Children's Division, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, 400 East 34th Street, New York City.

Illustrated talks, observations, lectures and demonstrations, including participation in clinics, will be used to give busy practitioners, particularly pediatricians, a detailed picture of the theory and practice of a modern children's rehabilitation service.

Since good rehabilitation depends on the concerted efforts of many services and skills, the course will stress the integration of all the means and methods used to evaluate, prescribe for, treat and train a disabled child and to establish his proper relationship with his community.

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Ninety-seven per cent of drivers involved in 1951 auto accidents had at least one year of experience behind the wheel.

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In 1951, 290,660 pedestrians were injured in U. S. traffic accidents.



# + Editorials +

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### BLACK SHEEP

A few weeks ago the country was shocked to read in the March 24, 1952 issue of TIME magazine (p. 80) that some California physicians had been "gypping" the state's Blue Shield Plan—California Physicians' Service.

This alarming charge had been whispered about for some time previously, so the C.P.S. trustees had canvassed a large group of patients and, regrettably, found that some 200 doctors had bagged "swag" estimated at over \$1,000,000 out of the \$18,000,000 paid out last year in behalf of its 850,000 subscribers.

How could such fabulous skullduggery be done? Says TIME: "One chiseler made the crude mistake of sending in a bill for surgery and office calls while the patient was actually in New York. Others got higher fees by raising the category of their work—e.g., charging for a cataract operation instead of merely

draining a sty. There was wholesale chiseling by charging for imaginary x-rays and laboratory tests."

This story also received nationwide publicity in the daily press, and the public reaction was prompt and potent, in effect: Too bad the medical profession contains so many crooks, but what is it going to do about it? Is it really as bad as they say it is, or is it even worse? Etc., etc.

The profession immediately took steps to do something about it, as outlined by Dr. John M. Cline, President of the American Medical Association who, in an address made on April 2, 1952 at San Francisco, before the annual National Blue Shield Conference, said:

"At this time I should comment upon the bad recent publicity with reference to California Physicians' Service. You gentlemen will be going to your homes all over the country and I think you should have information which was not included in a certain periodical article or some of the newspaper accounts.

"Out of some 11,500 physicians serving California Physicians' Service, the investigation revealed that about 200 probably were abusing the plan. Perhaps, "over using" might be a better term. Out of that whole group there were two or three instances of what appeared to be—and I do not possess the full evidence—actual fraud. In one instance it is reported that a physician billed the Service for an operation which he did not perform. In another instance, a physician is said to have performed a simple operation and billed the Service for an operation of much greater magnitude which carried a much higher fee. I am informed that in one case fraud has been established. The others are in the process of investigation but the initial evidence indicates that they will fall into the same classification.

"The County Medical Association has already proceeded against in the first instance. The offender, if found guilty, will be disciplined to the full extent possible, which is



loss of his membership. Already the State Board of Medical Examiners has been apprised of this physician's supposed misconduct and if the evidence justifies action, his license probably will be revoked on grounds of moral turpitude.

"After that the District Attorney of the County and perhaps the Federal District Attorney will be supplied with the evidence and criminal prosecution will be instituted. That decision lies without the scope of the medical profession, but the medical profession cannot and will not tolerate that variety of conduct on the part of *any* physician.

"The publicity has had a serious initial effect upon the medical profession and upon the Blue Cross and Blue Shield Plans all over the country. In the end, I believe the net result will be good. The medical profession is determined to see that our prepayment plans are properly protected from unscrupulous physicians and that those who infringe the code of ethics will be disciplined. This will strengthen the program and build public confidence in the prepayment plans."

Such prompt and determined action will make future would-be chiselers more inclined to remember the Biblical injunction: Be sure your sins will find you out. While the medical profession should contain *no* black sheep, it welcomes a comparison of its mere two per cent with that of any other group in the community. Even so, black sheep in Blue Shield never leave a white trail.

#### MISCELLANEOUS

##### Protein Structure Discovered

Science has drawn a step nearer to creating life with the recent discovery of how atoms of nitrogen, carbon and other elements fit together to form protein molecules, according to an article by Ewart Thomas in the April issue of *Popular Mechanics Magazine*.

The discovery of how some protein molecules are formed already is being hailed as "one of the greatest scientific discoveries of our time" because "it not only makes possible a new direct approach to the conquest of many diseases, but partially solves the baffling secret of life itself."

The analysis of the structure of protein molecules by Professors Linus Pauling and

Robert B. Corey opens up several new fields of research, the article states. Most important of these is the possibility of designing and creating molecules that would attach themselves to virus proteins and then destroy the potency of the viruses by forcing a rearrangement of their atomic structure. Professor Pauling, noting that many of the new drugs such as the sulfas and penicillin are believed to be potent because they combine with proteins and other organisms, thinks the day may come when it will be possible to sit down in the laboratory and write out the specifications for whatever kind of molecule is needed for vanquishing a particular disease.

"There is even a suggestion," the article states, "that molecules might be fashioned which would act on the wild growth of protoplasm in cancer, reducing or eliminating the malignancy."

Some time in the future, too, according to the article, chemists may be able to manufacture virus proteins. This would be a tremendous scientific achievement because a virus has some of the properties of a living organism. It can reproduce itself, although it has no metabolic reactions. "When atomic chemists finally create synthetic virus proteins they will have come close to manufacturing life itself," the article states.

Another possibility growing from the discovery of how protein molecules are formed is the manufacture in the laboratory of protein foods directly from the elements of which they are composed. Economically, the process could hardly compete with present ways of raising foodstuffs.

Professors Pauling and Corey worked from the basic knowledge that a protein consists of long chains of amino acid residues . . . relatively simple substances. They decided to try to learn the atomic structure of some of the amino acids and then assemble these structures into shapes or combinations that might fit the requirements for a protein. This was done by means of x-ray diffraction photography.

The next step consisted of assembling three-dimensional diagrams of amino-acid crystal structures after which models of several proteins were made from brightly colored wood and plastic "atoms". The models of the atoms represent a lineal magnification of several

million times. On the same scale a grain of rice would extend from New York to the Hawaiian Islands, or from London to the heart of Texas.

The exploration of proteins is only one of the many contributions that Professor Pauling has made to chemical knowledge. He is the principal author of the resonance theory of chemical bonds. He is also one of the outstanding American scientists selected by Popular Mechanics Magazine for its Golden Anniversary Hall of Fame. Professor Pauling is head of the chemistry and chemical-engineering division of the California Institute of Technology, with which Professor Corey also is associated.

### **Largest Medical Exhibit**

Chicago's half-mile long Navy Pier will be used June 9-13 to house the largest medical scientific and technical exhibits ever staged.

Three hundred scientific and 375 technical exhibits will have a frontage of more than three miles. They will occupy nearly a quarter of a million square feet of floor space, according to Thomas R. Gardiner of Chicago, business manager of the American Medical Association.

The exhibits will be held in connection with the 101st annual session of the A.M.A. Approximately two-thirds of the space will be devoted to the technical exposition, a presentation of informative displays by manufacturers and distributors of practically the entire scope of the physicians' needs.

The scientific exhibits, sponsored in most part by doctors, will show the latest developments and techniques in virtually every specialty of medicine. Emphasis, however, will be placed on subjects of interest to the family physician, according to Thomas G. Hull, Ph.D., of Chicago, director of the A.M.A. Bureau of Exhibits.

A registration of between 12,000 and 15,000 physicians from all parts of the country is expected at the convention. In addition, about 15,000 other medical personnel, exhibitors and guests are expected to attend. This large attendance makes it necessary to limit admission to the exhibits to A.M.A. members and their guests.

### **Commission Moves to Baltimore**

The Commission on Chronic Illness, which maintains offices in the American Medical Association's headquarters building in Chicago, will move to Baltimore July 1. A special, intensive study of chronic disease will be made in Baltimore.

The commission was founded in 1949 by the A.M.A., the American Hospital Association, the American Public Health Association and the American Public Welfare Association. It is headed by newly-appointed Dr. Dean W. Roberts, Baltimore, deputy director of the Maryland State Department of Health, and a member of the faculty of Johns Hopkins University.

The study of chronic disease among city dwellers, during which 4,000 Baltimore families will be surveyed and tested, will be a companion-study to one on the rural population of Hunterdon County, New Jersey.

The studies will provide answers to pertinent health questions involving the estimated needs for medical care and related services of the chronically ill, and the extent of chronic disease in urban and rural populations. The studies are expected to take several years to complete.

### **New Interns Appointed By National Matching Plan**

A national matching plan has been used for the first time this year to place new interns in hospital appointments. The plan was designed to help lessen the confusion which has occurred in the past when hospitals were seeking 10,000 interns from a graduating class of 6,000.

Under the plan sponsored by the National Interassociation Committee on Internships, hospitals and students contact each other freely during the student's senior year. Students apply for any internship which interests them, and visit hospitals of their choice. After these preliminaries have been completed, students and hospitals file confidential ratings with the Committee. The two are then matched, with the student receiving the internship he prefers most, if this agrees with the hospital's rating of him.

Success of the plan is indicated by the fact that 84 per cent of this year's new interns were matched with the hospital they indicated

as their first choice. An additional 10 per cent received their second choice placement. Seventy-four per cent of the hospitals received the student they designated as their first choice.

In an article in the May 1952 issue of the *Journal of Medical Education*, Dr. F. H. Mullen, Dean of Chicago Medical School and chairman of the internship committee and John M. Stalnaker, director of studies for the Association of American Medical Colleges, report on the results of the first year's matching. They express the opinion that the plan may be even more fully utilized when its success is generally known.

In March of this year punched rating cards were run through a machine which automatically matched hospitals and interns, in most cases with their first choices.

Approximately 95 per cent of this year's interns participated in the plan. Some 98 per cent of the hospitals offering internships were participants.

The National Interassociation Committee on Internships is composed of representatives from the Association of American Medical Colleges, Council on Medical Education and Hospitals of the A. M. A., American Hospital Association, American Protestant Hospital Association, Catholic Hospital Association, and the medical services of the Federal agencies offering internships.

#### IN FOREIGN LANDS

##### In Recent Crucial Elections

90% of Belgians	✓ VOTED
89% of Italians	✓ VOTED
82% of Englishmen	✓ VOTED
70% of Japanese	✓ VOTED

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and  
**LET'S VOTE!**

#### OBITUARY

J. WILLIAM URIE, M. D.

Dr. James William Urie, 46, of Elmhurst, died suddenly of a heart attack on April 17, 1952 at his summer cottage at Rehoboth, where he had gone for a short rest. He had not been ill.

Dr. Urie had been health officer at The Memorial Hospital for five years. He recently was named nursing school registrar. He also had served as secretary to the hospital medical staff. He was also on the Wilmington General Hospital staff.

Dr. Urie, in addition, served as physician to all Conrad High School football teams since the school opened in 1935. In 1950, the high school year book, "The Conradian," was dedicated to him.

Dr. Urie was born March 28, 1906, near Kennedyville, Md., the son of Mrs. Delia Ann Urie and the late Dr. James William Urie.

He was graduated from Chestertown High School, and from the Hahnemann Medical College, Philadelphia, in 1929. He served his internship at the Hahnemann Hospital and came to Elmhurst to practice in 1931.

During the last war, he entered service as a first lieutenant. He saw action on Leyte and Luzon. During the campaign on Luzon he was wounded and was awarded the Bronze Star for heroic action in rescuing several wounded men.

He was placed on the inactive list of the Medical Corps Reserves in November, 1945, with the rank of captain.

Dr. Urie was a member of the New Castle County Medical Society, the Medical Society of Delaware, the American Medical Association, and the American Academy of General Practice. He also was a member of the Newark Country Club.

Dr. Urie was married to the former Anna Rasin of Kennedyville on July 9, 1931.

In addition to the widow and mother, who lives at Kennedyville, survivors are a sister, Mrs. Catherine White, Kennedyville; a niece, and two nephews.

Funeral services were held on April 21, 1952 in Kennedyville Methodist Church. Interment was in Still Pond Cemetery.



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1. Kissin, M., Stein, J. J., and Adelman, R. J. *Angiology* 2:217 (June) 1951.

2. Rickles, J. A. J. *Florida M.A.* 38:263 (Oct.) 1951.

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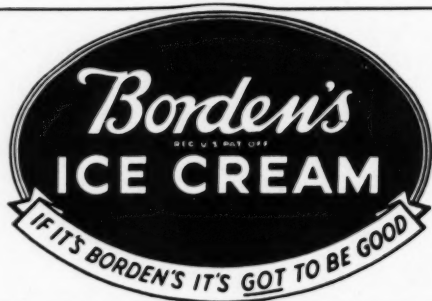
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# *konsyl*

the original unmodified psyllium derivative, contains no deleterious substances. It is all *Plantago ovata* coating—all bulk. Consequently, *Konsyl* provides maximum bulk action per dose at minimum cost to your patients.

# *konsyl*

**A bulk producing laxative that is all bulk**

*compare these advantages*

1. *Konsyl* is composed of the mucilaginous, jelly-producing portion of blond psyllium seed. No sugars or other diluents are added and a dose of *Konsyl* supplies bulk and bulk alone.
2. The diabetic, the obese, your routine constipation cases—all can take *Konsyl* safely and without increasing caloric intake.
3. Because *Konsyl* provides a softly-compact, well-formed stool of physiological consistency, it clears the rectum completely and easily, reducing soiling to a minimum. Lesions, when present, are left free of debris, and granulation tissue can form unhampered by foreign materials or an oily film.
4. *Konsyl*, because of its characteristic stool, promotes physiological peristalsis, acts to re-establish the normal defecation reflex.
5. *Konsyl* does not interfere with absorption of fat-soluble vitamins A, D, E, and K. Prothrombin levels are not affected and metabolism of calcium and phosphorus remain unimpaired.
6. *Konsyl* does not leak or complicate the hygiene of the anorectal region. It does not cause indigestion or interfere with digestion. *Konsyl* is non-irritating and is not habit-forming.

*We encourage you to write for samples for clinical comparison*



Supplied: 6 and 12 oz. cans.

Formula: 100% *Konsyl* brand coating of blond psyllium seed.

**Burton, Parsons & Company**

Washington 9, D. C.



*In infant formulas...*

**proper**

**caloric**

**distribution**

*calls for*

**adequate added carbohydrate**



FREQUENT mention in authoritative pediatric literature supports the classic caloric distribution of 15% protein, 35% fat and 50% carbohydrate for infant formulas.

This assures ample protein for development of sound tissue structure. And it supplies *adequate carbohydrate* to spare protein for its essential functions, meet energy needs, promote good fat metabolism and maintain water balance.

This classic caloric distribution is conveniently represented by 1 part evaporated milk and 2 parts water with 5 per cent added carbohydrate—roughly 1 tablespoon of Dextri-Maltose to each 5 ounces of formula.

For over 40 years, milk and Dextri-Maltose formulas with these approximate proportions have enjoyed consistent clinical success.



**MEAD JOHNSON & CO.**  
EVANSVILLE 21, IND., U. S. A.

